



Pressure Controller

The EPIC® black box at left is an Electronic Pressure Indicating Controller produced by North American Manufacturing Company, Cleveland, Ohio. A high-sensitivity device for improving combustion efficiency in industrial furnaces, it interprets a signal from a pressure transducer on a furnace and regulates furnace pressure accordingly. Shown below in use at Pittsburgh Commercial Heat Treat Company, Pittsburgh, Pennsylvania, the EPIC controller is produced in several versions, each of which operates in a different pressure range. The unit incorporates a diode-quad bridge circuit developed by Ames Research Center for use with pressure-sensitive transducers, liquid level measuring devices and other sensors.

A North American Manufacturing Company engineer engaged in designing furnace controls learned of the bridge circuit through *Tech Briefs*, a NASA quarterly publication which describes innovative technology available for transfer. He requested and received from Ames detailed technical information; the company was later granted a NASA license for use of the technology. The diode-quad bridge circuit is part of a larger EPIC circuit that controls furnace pressure to a user-adjusted level to provide maximum furnace efficiency. A company official says that the controller can provide savings of from five to 25 percent of an industrial user's annual furnace fuel bill. More than 1,000 of the devices have been sold and the market continues to expand as fuel prices climb.

® EPIC is a registered trademark of North American Manufacturing Company.

